



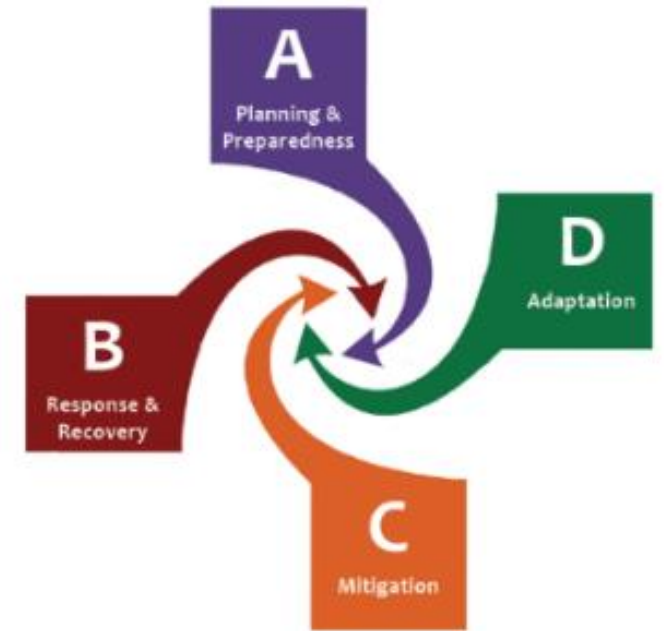
#### MODULE 4

# Estimating the Economic Impact of Flooding on Historic Resources



# MHT's *Flood Mitigation Guide*

- **Purpose** A “road map” to aid local governments and preservation advocates protect historic properties in their community from flood hazards
- **Audience** Anyone in state or local government attempting to meet combined goals of historic preservation and emergency management
- **Organization** Follows the emergency management cycle and also addresses “Adaptation”



# Hazard Mitigation Planning Process



# The Impact of Loss Estimates on Mitigation Decisions

- Higher assessed value loss properties targeted for mitigation
- Disadvantages properties with lower assessed value
- Influences development of mitigation goals and objectives
- One among several factors used to develop mitigation goals and objectives
- Basis of benefit cost analysis for mitigation actions

# When More is Less – Property Assessment Values

In Maryland, residential real property assessments are based on the Fair Market Value of a property.

There are two approaches to determining the assessed value of a property: the sales approach and cost approach.

The Maryland Department of Assessment and Taxation uses a blended approach to determine the value of a residential property: land is valued using the sales approach and improvements (which are buildings or dwellings) are valued according to the cost approach.

# It's Not Apples to Apples

- Uniqueness
- Lack of availability of building materials
- Irreproducible quality of building materials
- Specialized construction skills
- Custom built with custom features common in structures built before housing industry booms in or about the 1940s
- Experimentation with materials in the 1950s & 1960s (Mid-Century Modern)

# Using Hazus to Estimate Economic Losses

- Historic resources can be imported as a user-defined facility
- Loss estimates will not account for uniqueness of historic resources
- Will only include known historic resources

# Alternate Methods for Estimating Economic Loss for Historic Resources

Two ways to estimate structure loss for historic resources:

1. Replacement Value (estimated using a building cost data reference)  
x a Damage Multiplier (%)

Structure Loss = Replacement Value x Percent Damaged

1. Formula developed specifically to quantify expected damages  
(sample formula)

Structure Loss = Floor Area / Number of Stories x First Floor  
Square Footage Replacement Value x area cost factor %



# Estimating Structure Loss – Method 1

*Replacement Value (estimated using a building cost data reference) x a damage multiplier (%)*

Using the Construction Cost Data Reference:

Step 1 – Determine the appropriate style category for the property through a visual examination of the styles in the reference, being careful to select a style with similar design features and level of ornamentation and detail

Step 2 – Establish a square-foot cost based on the structural system of the building, plus additional costs for features like chimneys and porches (design features are listed and priced in the reference) – this is the base cost

# Estimating Structure Loss – Method 1

*Replacement Value (estimated using a building cost data reference) x a damage multiplier (%)*

Using the Construction Cost Data Reference:

Step 3 – Locate the local construction cost multiplier for your community

Step 4 – Multiply the base cost by the location multiplier to get your location-specific cost

Step 5 - Multiply the location-specific cost by a historic multiplier (\$) to get the replacement cost

# Estimating Structure Loss – Method 2

*Formula developed specifically to quantify structure loss  
(Sample Formula)*

Residential

Structure Loss = (above grade enclosed area/number of stories) x  
\$275.00

Commercial

Structure Loss = (above grade enclosed area/number of stories) x  
\$300.00

# Summary

After completing this module you should know:

- How and why estimating economic losses for historic resources is different than for newer buildings
- How to calculate the estimated economic loss for historic resources using Hazus
- Two other methods for calculated the estimated building or structure loss for historic resources

# For More Information Contact:

Steve Allan

Local Assistance and Training Planner

Maryland Historical Trust

[Steve.Allan@Maryland.gov](mailto:Steve.Allan@Maryland.gov)

410-697-9561

<http://mht.maryland.gov/weatherit.shtml>

